

VASHUKOV, I.A.; MAYKOV, O.A.

Strength of cerium cast iron under the effect of torsional shearing.  
Lit. proizv. no.8:9-10 Ag '62. (MIRA 15:11)  
(Cast iron--Testing) (Strains and stresses)

VASHUKOV, I. A.

Nonmagnetic cast iron inoculated by cerium alloys. Lit. proizv.  
no.10:36-38 0 '62. (MIRA 15:10)

(Cast iron—Magnetic properties)

VASHUKOV, I.A.; PESOCHINA, L.T.; MAYKOV, O.A.; MATTIS, G.P.

Effect of antimony on the structure and properties of gray  
cast iron. Lit. proizv. no.1:19-22 Ja '63. (MIRA 16:3)  
(Cast iron—Metallography)  
(Antimony)

VASHUKOV, I.A., inzh.; KONONENKO, S.G., inzh.; MATTIS, G.P., inzh.;  
PESCHINA, L.T., inzh.; SHOL'TS, A.F., inzh.

Furnaces for the local heat treatment of weld joints. Svar.  
proizv. no.7:30-31 JI '63. (MIRA 17:2)

1. Novosibirskiy zavod tyazhelykh stankov i gidravlicheskikh  
pressov im. A.M. Yefremova.

VASHUKOV, I.A.; SOLOVNIK, L.G.; LYUBOVSKAYA, V.Ye.

Effect of the type of anticorrosive coatings of chaplets on  
the quality of iron castings. Lit. proizv. no.4:5-6 Ap '64.  
(MIRA 18:7)

VASHUKOV, P.

Welded sifter brush guides. Muk.-elev.prom.22 no.3:25 Mr '56.  
(MIRA 9:7)

(MLRA 9:7)

1. ~~Flourmills~~ ~~equipment~~ ~~supplies~~ ~~(Sieves)~~ ~~imeni V.I. Lenina.~~  
(Flour mills--Equipment and supplies) (Sieves)

(Flour mills--Equipment and supplies) (Sieves)

VASHUNIN, P. S.

Nurseries (Horticulture) - Equipment and Supplies

Apparatus for weaving straw mats. Les. khoz. 5, no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August <sup>1952</sup>~~1953~~ Unclassified.

L 7709-66 EWT(m)/EPF(c)/EWP(j)/T WW/RM  
 ACC NR: APS028897 SOURCE CODE: UR/0138/65/0007/011/0002/0003

AUTHOR: Nagibina, T. D.; Ysenkova, L. S.; Alikberova, G. I.; Korablev, Yu. G. 49  
 Kuzin, V. S.; Kurnetsova, A. I.; Zharova, A. S.; Vashumina, M. D.

ORG: Institute of Organic Chemistry im. Zelinskiy, AN SSSR (Institut organicheskoy khimii AN SSSR); Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov 44  
 (Moskovskiy institut tonkoy khimicheskoy tekhnologii)

TITLE: Phenol-containing rubber SKDF-10 6

SOURCE: Kauchuk i rezina, no. 11, 1965, 2-3

TOPIC TAGS: synthetic rubber, phenol containing rubber, copolymer 15

ABSTRACT: Phenol-containing rubbers have been prepared by emulsion copolymerization at 60C of butadiene and dimethyl(vinylethynyl)(4-hydroxyphenyl)methane(I) in the presence of diazoaminobenzene and hydroquinone. The best chemical, physical and mechanical properties were exhibited by copolymers containing 10% of I (SKDF-10 rubber). IR absorption spectra indicated that copolymerization occurs via the double bond of I. SKDF-10 rubbers can be vulcanized by such agents as sulfur, phenol-formaldehyde resins, or hexamethylene tetramine. The formulation of the mixtures, the properties of the rubbers, vulcanization methods, and the vulcanizate properties are described in the source. The properties of SKDF-10 vulcanizates are similar to those of butadiene-styrene SKS-30 vulcanizates, but their fatigue strength in compression is 15

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twice as high as that of SKS-30 vulcanizates. SKDY-10 latex impregnation composi-  
tions exhibit enhanced adhesion. [80]

SUB CODE: MI/ SUBM DATE: none/ ORIG REF: 003/ ATD PRESS: 4142

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2/2

VASHUNSKIY, V. G.

Syntheses with acrylonitrile. XXIII. Preparation of N-(alkoxypropyl)pyrrolidines and piperidines. V. G. Vashunskiy and A. P. Lermontov (State Univ., Moscow). *Dokl. Akad. Nauk SSSR*, 25, 2299-2300 (1953); cf. C.A. 48, 3890b; 50, 7777h. Addn. of 31%  $O(CH_2CH_2OH)_2$  and 9.25 g. pyridine to 68.5 g.  $PBr_3$  gave, on the distn. after 24 hrs. 72.3%  $O(CH_2CH_2Br)_2$ ,  $b_p$  111-113°. To 13.24 g. moist  $K_2CO_3$  was added 10.56 g.  $(CH_3CH_2Br)_2$  in 15 ml.  $CH_2Cl_2$ , followed by slow addn. of 4.95 g.  $EtOCH_2CH_2CH_2NH_2$  in  $CH_2Cl_2$  at reflux; after 16 hrs. on a steam bath there was obtained 4.4% N-(2-ethoxypropyl)pyrrolidine,  $b_p$  71-73°,  $d_4$  0.845,  $n_D^{20}$  1.4440,  $d_4$  0.8856. Similarly was prepd. 46.2% N-(2-isopropoxypropyl)pyrrolidine,  $b_p$  79-80°,  $n_D^{20}$  1.4476,  $d_4$  0.8863, 45.5% N-(2-isobutoxypropyl)pyrrolidine,  $b_p$  62.5°,  $n_D^{20}$  1.4445,  $d_4$  0.8749, and 31.6% N-(2-butoxypropyl)pyrrolidine,  $b_p$  98-100°,  $n_D^{20}$  1.4448,  $d_4$  0.8720.  $(CH_3CH_2Br)_2$  in refluxing  $Et_2O$ -dioxane was treated with iso-AmOCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> and after 23 hrs. of refluxing gave 23.7% N-(2-isoxamylpropyl)pyrrolidine,  $b_p$  113-115°,  $n_D^{20}$  1.4462,  $d_4$  0.8709. Heating 20 hrs. 4.12 g.  $EtOCH_2CH_2CH_2NH_2$ , 10.7 g.  $CH_3(CH_2CH_2Br)_2$ , and 11 g.  $K_2SO_4$  in  $CH_2Cl_2$  gave 59% N-(2-ethoxypropyl)piperidine,  $b_p$  82-83°,  $n_D^{20}$  1.4490,  $d_4$  0.8884. Similarly formed was 53.4% N-(2-butoxypropyl)piperidine,  $b_p$  120-125°,  $n_D^{20}$  1.4508,  $d_4$  0.8796. The use of  $O(CH_2CH_2Br)_2$  similarly

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# SYNTHESIS OF SOME ACRYLONITRILE

gave 44.8% *N*-( $\gamma$ -ethoxypropyl)morpholine,  $b_p$  92-4°,  $n_D^{20}$  1.4168,  $d_4^{20}$  0.9331. XXIV. Comparative reactivity of acrylonitrile with other  $\alpha,\beta$ -unsaturated amines. V. G. Yashunskii, A. P. Terent'ev, and V. L. Shvedov. *Ibid.* 2157-64. The relative rates of reaction of unsatd. nitriles with K salt of glycine in aq. soln. were found to be in the following order:  $CH_2=CHCN$ , 100;  $MeCH=CHCN$ , 14.6;  $CH_2=CHCH_2CN$ , 2.7;  $CH_2=CMeCN$ , 1.7; 1-cyclohexenonitrile, 3.5; cyclohexylidenecetonitrile, 3.7; and cinnamonnitrile, 1.4, resp. To 15 g. Na dispersed in 30 ml. MePh was added over 15 min. 3.2 g.  $CH_2=CHCN$  in 220 ml. dry BuOH; after decompn. with  $H_2O$  and steam distn. into dil. HCl there was obtained 11%  $PrNH_2 \cdot HCl$  and 59.6%  $BuOCH_2CHMeNH_2$ ,  $b_p$  71.5-2.5°. Similarly, 8 g.  $CH_2=CMeCN$  and 26.5 g. Na with 420 ml. BuOH gave 34.6%  $BuOCH_2CHMeCH_2NH_2$ ,  $b_p$  83-5°,  $n_D^{20}$  1.4270,  $d_4^{20}$  0.8412; (picrate, m. 63°), as well as 46.2% iso-BuNH $_2 \cdot HCl$  salt, m. 178-9°. Similar reduction of  $MeCH=CHCN$  gave 39.6%  $BuO(CH_2)_4NH_2$ ,  $b_p$  78-9°,  $n_D^{20}$  1.4303,  $d_4^{20}$  0.8442 (picrate, m. 112°). Reduction of 1-cyclohexenonitrile thus gave 50.3% aminomethylcyclohexane,  $b_p$  79-80° (picrate, m. 180-7°). Reduction of  $MeC\equiv CHCN$  gave 60.5% iso-AmNH $_2$ . Cinnamonnitrile similarly gave 56.4%  $Ph(CH_2)_3NH_2$ ,  $b_p$  116-18°; picrate, m. 153.5-4°.

G. M. Kozolapoff

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VASHURA, B.F.

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Ob opredelenii peregreva obmotok Po deystvuyushchemu standartu. (S Prinech. L.  
M. Shnitsera "Po Povodu Zamechaniy B. F. Vashury"). Elektricheskoe, 1949, No. 8,  
s. 85-86

SO: LETOPIS' No. 34

LYUBCHIK. M.A.; VASHURA, B.F., professor, redaktor.

[Low voltage electric switchgear] Kommutatsionnye apparaty nizkogo  
napriazheniia; uchebnye tablitsy. Moskva, Gos. energ. izd-vo, 1954.  
8 diagrams (in portfolio). [Microfilm]. (MIRA 9:7)  
(Electric switchgear)

STUPEL', Fayvel' Aronovich; VASHURA, B.F., prof., retsenzent; SUKACHEV, A.P., dots., retsenzent; KALUZHNIKOV, N.A., retsenzent; BARU, I.L., prof., otv.red.; VAYNBERG, D.A., red.; CHERNYSHENKO, Ya.T., tekhn.red.

[Electromechanical relays; principles of the theory, analysis, and design] Elektromekhanicheskie rele; osnovy teorii, proektirovaniia i rashcheta. [A textbook] Uchebnoe posobie. Izd.2. Khar'kov, Izd-vo Khar'kovskogo univ., 1956. 354 p. (MIRA 12:5)  
(Electric relays)

~~VASHURA, B.P.~~; STUPEL', F.A.; SHTURMAN, G.I.; BERGER, A.Ya.; LYUTER,  
R.A.; YEREMEYEV, A.S.

Professor O.B. Bron. Elektrichestvo no.5:94 My '56. (MLRA 9:8)  
(Bron, Osip Borisovich, 1896-)

SOV/112-59-4-6991

8(0)

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 4, p 30 (USSR)

AUTHOR: Vashura, V. F., and Baru, I. I.

TITLE: Approximate Relations That Determine the Operation of an Induction Motor With Different Rotor Resistances

PERIODICAL: Tr. Khar'kovsk. politekhn. in-ta, 1957, Nr 12, pp 3-11

ABSTRACT: Operation of a slip-ring induction motor with 3 different resistors connected in the rotor phases is considered. The asymmetrical EMFs set up in the rotor by the elliptical rotating field is resolved into symmetrical components; only positive-phase-sequence EMFs are taken into account. The equations for rotor-phase currents are developed with a consideration of phase resistances only. The instantaneous value of the torque is

$$d = \frac{3E^2}{\omega_0 R_{equiv}} s,$$

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SOV/112-59-4-6991

Approximate Relations That Determine the Operation of an Induction Motor . . . .

where  $E$  is the rotor-phase EMF at the slip  $s = 1$ ;  $\omega_0$  is the synchronous angular velocity of the rotor;

$$R_{\text{equiv}} = \frac{R_a R_b + R_a R_c + R_b R_c}{R_a + R_b + R_c}$$

here  $R_a$ ,  $R_b$ , and  $R_c$  are rotor-phase active resistances. It is pointed out that the electric losses in a rotor with different active resistances of its phases are equal to the losses when each resistance is equal to  $R_{\text{equiv}}$ . The asymmetry factor  $\gamma$ , which characterizes the ratio of the negative-phase-sequence to the positive-phase-sequence currents, is equal

$$\gamma = \frac{I_2}{I_1} = \sqrt{1 - \frac{R_{\text{equiv}}}{R_{\text{av}}}}, \text{ where } R_{\text{av}} = \frac{R_a + R_b + R_c}{3}.$$

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Approximate Relations That Determine the Operation of an Induction Motor . . . .

It is pointed out that the above relations permit calculating asymmetrical resistance steps in a rheostat and permit constructing motor-starting diagrams that would show phase currents during starting.

A.N.B.

Card 3/3

LYUBCHIK, Mikhail Abramovich; VASHURA, B.F., prof., obshchiy red.;  
USTINOVA, Yu.P., red.; LARIONOV, G.Ye., tekhn.red.

[Calculation and design of d.c. and a.c. electromagnets]  
Raschet i proektirovanie elektromagnitov postoiannogo i pere-  
mennogo toka. Pod obshchei red. B.F.Bashury. Moskva, Gos.  
energ.izd-vo, 1959. 221 p. (MIRA 12:10)  
(Electromagnets)

SOV/144-59-12-14/21

AUTHORS: Baru, I.I., Candidate of Technical Sciences, Dotsent.  
Vashura, B.F., Doctor of Technical Sciences, Professor,  
Lyubchik, M.A.

TITLE: Motion of the Armature of an Alternating Current  
Electro-Magnet

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika,  
1959, Nr 12, pp 127-134 (USSR)

ABSTRACT: Experimental observations of the forces exerted by  
a.c. electro-magnets depend very much on the test  
procedure. For a given air-gap, "pull-in" and "pull-out"  
tests give different results, mainly as a result of  
armature vibration. The motion of the armature depends  
on the force developed by the electro-magnet and the  
counter-acting force. A certain voltage is required to  
ensure that the armature pulls in smoothly without  
vibrating on the stop. The present article derives  
approximate relationships for the motion of the armature  
near the stop, it relates to an E-shaped system with one  
voltage coil. The assumptions made are stated. The  
equations for the electro-magnetic forces are given by  
Eq (1). Introducing the torque applied to the centre pole

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SOV/144-59-12-14/21

Motion of the Armature of an Alternating Current Electro-Magnet

and equating it to the resultant torque of all poles, Eq (2) is obtained; this is equated to the counter-torque produced by the load. Motion of the armature near the stop is examined during smooth change of the voltage applied to the coil. Graphs of the changes in the referred force as a function of time for various values of voltage are plotted in Fig 2. Motion of the armature is then considered for different values of voltage. The first is so low that the armature does not move and the second is the limiting case where the force and counter-force are equal and the armature still does not move; Fig 4 relates to these two cases. Finally there is the circumstance of a further slight increase of voltage that permits vibration, indicated in Fig 5. This case is considered in somewhat more detail, noting the various kinds of vibration that may occur. Attention is then given to the lowest voltage at which the armature pulls in smoothly without vibration and to the still higher voltage at which the armature still pulls in without bouncing but more rapidly. After thus studying the physics of the process of armature motion, the equations of motion are derived.

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SOV/144-59-12-14/21

Motion of the Armature of an Alternating Current Electro-Magnet

The instantaneous value of the resultant force is given by Eq (3) and the constants of integration are derived from the initial conditions. Eq (7) and (10) give the speed and position of the armature as functions of time. By substitution of the appropriate conditions into Eq (10), expressions can be derived for vibration of the armature on the stop. It is shown that vibration occurs on pull-in when the force applied to the centre pole is 65% of the amplitude of the electro-magnetic force; on pulling-out this ratio would be 0.35. The formulae derived are based on referred forces and so can be applied to any configuration of a.c. magnet system. They may also be used to determine the changes in armature position and speed as function of time. There are 12 figures.

ASSOCIATION: Khar'kovskiy politekhnicheskii institut (Khar'kov  
Polytechnical Institute)

SUBMITTED: September 13, 1959

Card 3/3

VASHURA, B.F.; BARU, I.I.

Choice of resistance elements for air-cooled d.c. and a.c. starting  
rheostats. Trudy KhPI 30 no.1:3-24 '60. (MIRA 14:9)  
(Electric resistors) (Electric motors--Starting devices)

VASHURA, B.F.; BARU, I.I.

Analytic calculation of the resistances of excitation rheostats.  
Trudy khPI 30 no.1:25-40 '60.  
(Electric generators) (Voltage regulators) (MIRA 14:9)



VASHURA, P., general-leutenant

In the fight for paces and quality of building. Komm. Vocruzh.  
Sil 46 no.22:25-31 N '65. (MIRA 19:1)

1. Chlan Voyennogo soveta, nachal'nik politicheskogo upravleniya  
Ural'skogo voyennogo okruga.

VASHURIN, Aleksandr Aleksandrovich, inzhener; LAPIN, Vladimir Borisovich,  
inzhener; PRUSAKOV, Mendel' Borisovich, inzhener; BELYAYEV, I.A.,  
inzhener, redaktor; KHITROV, P.A., tekhnicheskii redaktor

[Manual for foremen of traction substations of direct-current  
electric railroads] Spravochnik mastera tlagovoi podstantsii  
elektrifitsirovannykh zheleznykh dorog postoiannogo toka. Moskva,  
Gos. transp.zhel-dor.izd-vo, 1957. 334 p. (MIRA 10:11)  
(Electric railroads--Substations)

VASHURIN, A.A.

Lessons gained from a power failure. Elek. i tepl. tiaga 2 no.8:17-19  
Ag '58. (MIRA 11:9)

(Electric railroads--Substations)

IVASHNEV, Lev Ivanovich; SIDORKIN, Vladimir Ivanovich; VASHURIN, A.A.,  
red.; ENTIN, Yu.S., red.; PEREDERIY, S.P., tekhn.red.

[Manual on equipping sites for training contact-network  
electricians in railroad and technical schools] Rukovodstvo  
po oborudovaniu uchebnykh poligonov dlia obucheniia elektro-  
monterov kontaktnoi seti v zheleznodorozhnykh i tekhnicheskikh  
uchilishchakh. Moskva, Proftekhizdat, 1961. 57 p.

(MIRA 15:5)

(Electric railroads—Wires and wiring)  
(Railroads—Employees—Education and training)

VARSIURIN, A.A., inzh.; KHEBNIKO, N.I., inzh.; SIBAROV, Yu.G.,  
inzh.; FOMICHEV, V.A., inzh.; MELAMED, M.F., inzh.;  
POTAPOVA, T.I., inzh.; KOLYUZHENY, G.G., inzh.; TAGIROVA,  
M.I., inzh.; SHIFMAN, O.I., inzh.; STORTS, A.A., inzh.;  
VASIURIN, A.A., inzh., otv. za vypusk; KHITROV, P.A., tekhn.  
red.

[Safety engineering regulations for operating traction substations and sectionalization posts of electrified railroads]Pravila tekhniki bezopasnosti pri ekspluatatsii tiagovykh podstantsii i postov sektionirovaniia elektrifitsirovannykh zheleznnykh dorog. Moskva, Transzheldorizdat, 1962. 202 p.  
(MIRA 15:8)

1. Russia (1923- U.S.S.R.)Glavnoye upravleniye elektrifikatsii i energeticheskogo khozyaystva. 2. TsE Ministerstva putey soobshcheniya (for Khlebnikov). 3. TSentral'nyy komitet profsoyuza (for Fomichev). 4. Moskovskaya zheleznaya doroga (for Kolyuzhnyy). 5. Sverdlovskaya zheleznaya doroga (for Tagirova). 6. Yuzhno-Ural'skaya zheleznaya doroga (for Shifman). 7. Zapadno-Sibirskaya zheleznaya doroga (for Storts).

(Electric railroads--Safety regulations)

VASHURIN, A.A.; SHILKIN, P.M.; ZEL'VYANSKIY, Ya.A., starshiy inzh.

New safety engineering regulations for operating electric power supply systems. Elek. i tepl. tiaga no.6:30-32 Je '62.

(MIRA 15:7)

1. Zamestitel' nachal'nika otdela tyagovykh podstantsiy i kontaktnoy seti TsE Ministerstva putey soobshcheniya (for Vashurin).
  2. Zamestitel' nachal'nika tekhnicheskogo otdela TsE Ministerstva putey soobshcheniya (for Shilkin). 3. Tekhnicheskii otdel TsE Ministerstva putey soobshcheniya (for Zel'vyanskiy).
- (Electric railroads--Safety regulations)  
(Electric railroads--Current supply)

REBRIK, B.N., kand.tekhn.nauk, starshiy nauchnyy sotrudnik; ZAV'YALOV, G.N.;  
VASHURIN, A.A., inzh.; KHATSKELEVICH, M.N., inzh.

Answering readers queries. Elek. i tepl.tiaga 6 no.8:42-44  
Ag '62. (MIRA 17:3)

1. Otdeleniye elektrifikatsii Vsesoyuznogo nauchno-issledovatel'skogo  
instituta zheleznodorozhnogo transporta Ministerstva putey  
soobshcheniya (for Rebrik). 2. Glavnyy tekhnolog po avtotormozam  
Glavnogo upravleniya lokomotivnogo khozyaystva Ministerstva putey  
soobshcheniya (for Zav'yalov).

VASHURIN, Aleksandr Aleksandrovich, inzh.; LAPIN, Vladimir  
Borisovich, inzh.; PRUSAKOV, Mendel' Borisovich,  
inzh.; Prinimali uchastiye: PRONIN, L.P., inzh.;  
SHUKHATOVICH, L.I., inzh.; KALININ, V.K., kand. tekhn  
nauk, red.

[Manual for traction substation electricians] Spravochnik  
elektromekhanika tiagovoi podstantsii. Izd.2., perer. i  
dop. Moskva, Izd-vo "Transport," 1964. 423 p.  
(MIRA 17:5)



VASHURIN, P., gvardii general-leytenant.

Organization in the work of a commander. Voen.vest.36 no.12:15-20  
D '56.

(MLRA 10:2)

(Russia--Army--Organization)

VASHURIN, P., gvardii general-leytenant.

The commanding officer plans his own work. Yoen.vest. 36 no.7:  
14-18 Jl '56. (MLRA 9:8)  
(Russia--Army--Officers)

VASHURIN, P., general-leytenant

Personal plan of the commander. Veon. vest. 40 no.11:34-37 N  
'60. (MIRA 14:11)

(Russia--Army--Officers)  
(Military education)

VASHURIN, P.S.

"Training of units for assault from the march" by P.S.Vashurin.  
Voen.vest. 41 no.10:126 0 '61. (MIRA 15:2)  
(Marching) (Vashurin, P.S.)

VASHURIN, Petr Semenovich, general-leutenant; DUKACHEV, N.P.: tekhn. red.  
red.; BUKOVSKAYA, N.A., tekhn. red.

[Training of units for assault from the march] Podgotovka podrazdelenii k marshbroskam. Moskva, Voen.izd-vo M-va obor.SSSR, 1961. 34 p.  
(MIRA 14:11)

(Infantry drill and tactics) (Marching)

VASHUROVA, T. A., Eng.

USSR/Electricity - Induction Heating  
Heat Treatment

Aug 50

"Induction Heat Treatment of Welded Seams," V. V. Aleksandrov, T. A. Vashurova,  
Engineers, Gen Sci Res Inst of Heavy Mach Bldg (TsNIITMASH)

"Prom Energet" No 8, pp 13-15

Describes experiments conducted by Cen Bu of Elec Case Hardening, TsNIITMASH, which  
show induction heat treatment takes less time than furnace heating and is more efficient.  
Recommends wide use of induction heating. Includes photograph of inductor used  
for welding plates of thicknesses up to 50 mm.

PA 164T26

VASHUROVA, T.A., inzh.; PLESHACHKOVA, V.P., inzh.

Induction heat treatment of overhead crane parts. [Trudy] TSNIITMASH  
89:30-41 '59. (MIRA 12:4)  
(Case hardening) (Induction heating)

BOGATYREV, Yuriy Mikhaylovich; VASHUROVA, Tamara Alekseyevna; MARTYNOV,  
Vitaliy Petrovich; GL'SHANSKAYA, I.V., inzh., red.; L'VOV, D.S.,  
kand.tekhn. nauk, red.; SHVETSOV, G.V., tekhn. red.

[Rapid induction heating of heat-resistant alloy ingots] Skoro-  
stnoi induktsionnyi nagrev zagotovok iz zharoprochnykh splavov.  
Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958.  
21 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt.  
Tema 5. No.M-58-330/17) (MIRA 16:2)  
(Heat-resistant alloys) (Induction heating)



1. VASHUTO, M.
2. USSR (600)
4. Moving-Picture Projectors
7. Basic principles in planning the work repair shops for motion picture projection equipment, Kinomekhanik, no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

VASH-VITTEG, Miklosh [Vas-Witteg, Miklos]

The democratic path of the Hungarian Trade Unions. Vsem. prof.  
dvizh. no.12:27-29 D '59. (MIRA 13:1)

1. Zamestitel' predsedatelya Tsentral'nogo soveta profsoyuzov Vengrii.  
(Hungary--Trade unions)

MILOSEVIC, M.; VASIC, B.

Pharmacological effects of polyphosphates on the intestine. Higijena,  
Beogr. 12 no.4:351-354 '60.  
(PHOSPHATES pharmacol)  
(INTESTINES pharmacol)

MILOSEVIC, M.; TERZIC, M.; VASIC, B.

Effect of 1,1'-trimethylene-4,4'-bis(hydroxyquinomethyl)-bis[pyridinium bromide] on the striated muscle. Voj.san.pregl., Beogr. 17 no.11: 1143-1146 N '60.

1. Medicinski fakultet u Beogradu, Farmakoloski institut  
(MUSCLES pharmacol)  
(PYRIDINES pharmacol)

MILOSEVIC, M.; TERZIC, M.; VASIC, B.

Contribution to experimental studies on the cardiovascular effect of N,N'-trimethylenebis-(4-formylpyridinium bromide) dioxime (TMB-4). Vojnosanit. pregl. 19 no.1:21-24 Ja '62.

1. Medicinski fakultet u Beogradu, Farmakoloski institut.  
(PYRIDINES pharmacol) (HYDROXYLAMINES pharmacol)  
(VASOMOTOR SYSTEM pharmacol)

S

HUNGARIAN

CASIO, B., et al., of the Institute of Preventive Veterinary Medicine (Institut de Preventivna Veterinarna Medicina).

"The M. Avian Vaccine Obtained Through Attenuation of the Virus on a Tissue Culture."

Belgrade, Acta Veterinaria, Vol 12, No 3-4, 1962, p. 31-36.

Abstract: Authors' English summary modified: The M. Avian vaccine obtained through attenuation of the virus on a tissue culture has a considerable reduced virulence effect on mice while retaining its immunogenic character and is therefore suitable for vaccinating mice against the M. Avian disease. The vaccination does not cause any clinical reactions in the mice vaccinated, although the virus in a concentration 100 times stronger caused rising temperatures and other disease consequences. The table, 17 references to Hungarian, American, and Yugoslav works of recent date.

L/1

YUGOSLAVIA

VASIC, B. and VASIC, N.; Veterinary Institute (Veterinarski Institut),  
Zemun.

"Multiplication of the Viruses of Fowl Diphtheria and Fowl Pox in Tissue  
Culture of Hen Embryo Fibroblasts."

Belgrade, Veterinarski Glasnik, Vol 20, No 7, 1966; pp 549-553.

Abstract [English summary modified]: Use of 2 lyophilized vaccines of  
fowl pox, one of pigeon and one of chicken origin. The cytopathogenic  
effects seen in vitro would seem to militate against the possibility of  
their effective use in the field for vaccination. Seven photomicrographs,  
9 Western references; ms received 23 May 66.

VASIC, D.

Decontamination of radio stations, teleprinters, and high-frequency  
equipment. p. 445  
VOJNO-TEHNICKI GLASNIK. Beograd. Vol. 4, no. 6, June 1956

SOURCE: East European Accessions List, (EEAL), Library of Congress,  
Vol. 5, no. 12, December 1956



YUGOSLAVIA

D. ERCEGOVAC, M. SLAVICA, B. VASIC, D. ANDELKOVIC, B. PENEZIC and S. BUNCIC; Veterinary Institute (Veterinarski Zavod) Zemun; Department and Clinic for Infectious Diseases of the Veterinary Faculty (Institut i klinika za zaraze Veterinarskog fakulteta) Belgrade, and Veterinary Station (Veterinarska stanica), Vrsac.

"Preliminary Laboratory and Field Results with the High-Passage, Lapinized Virus Strain (N-Lavir) of Hog Cholera."

Belgrade, Veterinarski Glasnik, Vol 17, No 2, 1963; pp 173-179.

Abstract: Mass vaccinations and hygienic measures decreases incidence of hog cholera to 569 premises in 1957 but subsequent complacency and neglect brought it up to 3,497 in 1960 again. Poor control of traffic in live animals, neglect of vaccination altogether and even more frequently vaccinations of pigs during times when the animals are notoriously immunologically poorly responsive are main errors committed. Hudson N-Lavir vaccine strain (Veterinarski Zavod, Zemun) was found both safer and more effective than a previous strain. Comprehensive results. Table; 7 Western, 1 Hungarian and 8 Yugoslav references.

1/1

SARVAN, M.; ZEC, N.; VASIC, D.; MAJSTOROVIC, M.; BOGDANOV, B.; HAKSTOK, V.

Medicine. Bul se Youg 7 no.3:67-68 Je '62.

1. Medicinski fakultet, Sarajevo.

\*

VASIC, Dragos

Analysis of the hospital material and immediate results of the treatment of 131 patients. Tuberkuloza 15 no.2:217-224 Ap-Je '63.

1. Opsta bolnica, grudno odeljenje, Paracin - V. d. sefa: dr  
Dragos Vasic.

(TUBERCULOSIS, PULMONARY) (THERAPEUTICS)  
(STATISTICS)

VASIC, Dragos

Analytical study and immediate results of the treatment of 143 patients in the thoracic department of the Paracin General Hospital observed in 1961 and 1962. Tuberkuloza 16 no.1:9-37 Ja-P 164.

1. Medicinski centar, Paracin (Upravnik: dr. Milisav Bordanovic);  
Gradno odeljenje opste bolnice (Sof: dr. Dragos Vasic).

VASIC, Dragos

On some causes of failure in the treatment of pulmonary tuberculosis. Tuberkuloza 17 no.3:221-232 My-Je '65.

1. Medicinski centar, Paracin (Upravnik: dr. Milisav Bogdanovic)  
i Antituberkulozni dispanzer (Sef: dr. Dragos Vasic).

13C

124

13

Examination of chrysalids of *Lymantria dispar*, L., in 1968.  
K. Vasic (*Plant. Protect.*, *Belgrade*, 1968, I. No. 2, 23-34).—46%  
of female, and 32% of male, chrysalids examined were parasitized,  
chiefly by *Tachinidae* species, *Sarcophaga dennisi* predominating,  
and by wasps (*Chalcididae*, *Brachidae*, and *Ichneumonidae*). The

: (ratio of males to females is approximately unity at pupation, but  
changes in favor of males in the imago stage, owing to greater  
female chrysalid mortality. R. TRUSCOR.

ASAC SLA METALLURGICAL LITERATURE CLASSIFICATION

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YUGOSLAVIA/General and Special Ecology. Insects

P-2

Abs Jour : Ref Zhur - Biol., No 15, 1953, No 58900

Author : Vasic A.  
Inst : Serbian Acad Sci  
Title : Supplementary Data on the Biology, Ecology, and Morphology of the Small Aquiline Noctuid

Orig Pub : Zb. radova. Brska AN, 1953, 31, 185-203

Abstract : During the extended drought period, 1946-1950, it was noted that noctuids were spreading intensively in Serbia and Vojvodina, the most common of them being *A. aquilina*. Since such as this noctuid is encountered not only on wild plants but also on vegetable and fodder crops (lucerne), observations were made on the development of the pest under field and laboratory conditions, and a study was made of its morphology. The following parasites of *A. aquilina* caterpillars were discovered:

Card : 1/2

VASIC, K.

Contribution to the knowledge of the evolutionary cycle of some species of Triphaena O. and Spaelotis Bsd. p.31. Belgrade. Univerzitet. Sumarski fakultet. GLASNIK. BULLETIN. Beograd. No. 8, 1954

SOURCE: East European Accessions List (EEAL), Library of Congress  
Vol. 5, No. 6, June 1956



VASIC, K.; IVANOVIC, Jelisaveta; MAKSIMOVIC, M.; STANIC, Vlasta; DORDEVIC, M.

Morphogenetic differentiations, and oxygen consumption during the embryonal development of *Lymantria dispar* L. Arh biol nauka 13 no.3/4: 181-197 '61.

1. Bioloski institut, Beograd.

\*

VASIC, F.

First results from the experimental railroad track in Savoy. p. 340. (BEOGRAD, Vol. 10, No. 9, Sept. 1954.)

SC: Monthly Lists of East European Accessions. (EEAL, 10, Vol 4, No. 6, June 1955, Uncl.

YUGOSLAVIA

VASIC, B. and VASIC, N.; Veterinary Institute (Veterinarski Institut),  
Zemun.

"Multiplication of the Viruses of Fowl Diphtheria and Fowl Pox in Tissue  
Culture of Hen Embryo Fibroblasts."

Belgrade, Veterinarski Glasnik, Vol 20, No 7, 1966; pp 549-553.

Abstract [English summary modified]: Use of 2 lyophilized vaccines of  
fowl pox, one of pigeon and one of chicken origin. The cytopathogenic  
effects seen in vitro would seem to militate against the possibility of  
their effective use in the field for vaccination. Seven photomicrographs,  
9 Western references; ms received 23 May 66.

GERL, Friderik, prof., ing.; STEFANOVIC, Aleksandar; VASIC, Pavle

Development of food industry. Alm hem ind 125-155 '59.

S/044/63/000/002/012/050  
A060/A126

AUTHOR: Vasić, Petar

TITLE: On a second order differential equation

PERIODICAL: Referativnyy zhurnal, Matematika, no. 2, 1963, 37, abstract 2B155  
(Publ. Elektrotehn. fak. Univ. Beogradu. Mat i fiz., 1962, no. 70  
- 76, 9 - 11; French)

TEXT: It is demonstrated that the equation

$$x^2 (ax^n + b) y'' + x (cx^n + d) y' + (ex^n + f) y = 0$$

(where a, b, c, d, e, f are constants) has a particular solution  $y(x)$ , satisfying the equation

$$y^3 + pyx^{\frac{n}{3}+2k} + qx^{3k} = 0$$

(where  $n \neq 0$ ,  $p \neq 0$ ,  $k, q$  are constants), provided that all the coefficients satisfy certain conditions.

[Abstracter's note: Complete translation]

Card 1/1

VASIC, Petar M.

Functional equation of a certain type of determinants.  
Publ Inst math SANU 2(16):65-70 '62 [publ. '63].

VASIC, Petar M.

A homogeneous functional equation of the second degree.  
Publ Inst math SANU 3:35-40 1963.

MITRINOVIC, D.S.; VASIC, P.M.; PRESIC, S.B.

A functional equation of the second degree. Publ Inat  
math SANU 3:57-60 '63.



MITRINOVIC, D.S.; VASIC, P.M.

Complements to the treatise of Kamke. Pt. 10. Publ Inst  
math SANU 3:61-68 '63.

MITRINOVIC, Dragoslav S.; VASIC, Petar M.

Some nonlinear cyclic functional equations with curious  
properties. Publ Inst math SANU 3:105-114 '61.

VASIC, Petar M. (Beograd)

A system of functional equations. Glas mat fiz Hrv 18 no.4:229-233  
'63.

VASIC, R.  
Yugoslavia (430)

History and Description - Serials

White slaves in satellite countries. p. 14.  
REVIEW OF INTERNATIONAL AFFAIRS. (Federation  
of Yugoslav Journalists) Beograd. (Fortnightly  
journal on international problems. Published  
also in Serbo-Croatian as Medunarodna Politika.

East European Accessions List. Library of  
Congress, Vol. 1, no. 13, November 1952.  
UNCLASSIFIED

"Card 1 of 2"

VASIC, R.

Yugoslavia (430)

Croatian as Medunarodna Politika, and in French as Revue de la Politique Mondiale, Vol. 3, no. 13, July 1, 1952.

East European Accessions List. Library of Congress, Vol. 1, no. 13, November 1952.

UNCLASSIFIED

"Card 2 of 2"

VASIC, R.

Yugoslavia (430)

and in French as Revue de la Politique  
Mondiale), Vol. 3, no. 14, July 16, 1952.

East European Accessions List. Library of  
Congress, Vol. 1, no. 13, November 1952.

UNCLASSIFIED

"Card 2 of 2"

VASIC, V.

A rare and unusual case of drowning and poisoning in so-called  
"blue-water". Arh. hig. rada 15 no.3:277-282 '64.

1. Interno odeljenje Opste bolnice, Brr.

VASIC, V.

Considerable increase in the incidence of primary lung cancer  
in the mining-industrial area of Bor. Arh. hig. rada 15 no.4:  
413-418 '64.

1. Interno odeljenje Opste bolnice, Bor.



DAVIDOVIC, M.; POPESKOVIC, D.; VASIC, Z.; KFAJACEVIC, Ksenija

Critical temperature of the spontaneous warming up of sleeping  
spermophiles. Bul sci nat SAN 25 no.7:117-118 '59. (EEAI 9:12)

1. Institut de Physiologie de la Faculte des Sciences et Instiut de  
Biologie de la Faculte de Medicine de l'Universite de Beograd.  
(Spermophile) (Temperature) (Heat) (Sleep)

DAVIDOVIC, M.; PCPESKOVIC, D.; VASIC, Z.; KRAJACEVIC, Ksenija

Critical temperature for the spontaneous warming up of hibernating  
spermophiles. Glas Prir mat SANU 241 no.18:21-28 '60.

1. Fiziologki zavod Prirodno-matematickog fakulteta i Bioloski  
institut Medicinskog fakulteta Univerziteta u Beogradu

BIDOVEC, Franc, sanitetski potpukovnik dr; DEBIJADI, Rudi, sanitetski major  
dr; RISAVI, Antun, sanitetski potpukovnik dr.; STRMOTIC, Emilija,  
prof; VASIC, Zivorad, prof.

Certain practical problems in aviation medicine. Voj.san.pregl.,  
Beogr. 17 no.12:1319-1328 D '60.

1. Vozduhoplovnomedicinski institut u Zemunu:  
(AVIATION MEDICINE)

VASICA, Gh.; BITA, O.; DINCA, I.

Studies on the wear and seizing resistance of hardened steel couples.  
Studii cerc mec apl 17 no.6:1623-1633 '64.

1. Institute of Applied Mechanics, Rumanian Academy (for Dinca).  
Submitted June 25, 1964.

**"APPROVED FOR RELEASE: 08/31/2001**

**CIA-RDP86-00513R001858720014-5**

**APPROVED FOR RELEASE: 08/31/2001**

**CIA-RDP86-00513R001858720014-5"**

VASICA, J.; POKORNY, A.

"ZETAP, electronic apparatus for nondestructive material testing." p. 9.

TECHNICKA PRACA. (Rada vedeckych technickych spolocnosti pri Slovenskej akademii vied). Bratislava, Czechoslovakia, Vol. 7, No. 1, 1955.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,  
August 1959.  
Uncla.

S/194/62/000/001/038/066  
D201/D305

AUTHOR: Vašica, Karel

TITLE: Some problems of ultrasonic testing

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika,  
no. 1, 1962, abstract 1-5-40 i (Hutník (CSR), 1961,  
11, no. 3, 123-128)

TEXT: It is stated that ultrasonic testing is widely used in the metallurgical and engineering establishments of the Czechoslovak People's Republic for inspection of forgings and rollings. A short description of US inspection methods is given. The defects detectable by US methods are enumerated. The US inspection method of a bending forged roller is given together with typical reflectograms and corresponding photographs of its large sections. It is shown that a study of the internal structure of forgings and rollings using the US method should be carried out on rejects. It is pointed out that it is important to use the US inspection method in conjunction with the use of standard samples. It is suggested that

Card 1/2

Some problems of ultrasonic ...

S/194/62/000/001/038/066  
D201/D305

US inspection should be complemented by subsequent checking of the effect of detected defects on production and safety of operation of equipment. For this purpose, US inspection of all important equipment should be carried out during general overhaul periods or stoppages in work and after its replacement. It is shown that the volume of US inspection methods used in the past for this purpose which are of great importance from the point of view of national industry, was not adequate and the need for their systematic use is pointed out. A summary of US inspection as applied to metallurgy at the VZKG (CPR) is given; Western German 1957 standards of metallurgical US inspection are criticized. It is emphasized that the tests for convenience and applicability of US inspection methods should always be based on full knowledge of the related problems and on the results of experiments. 6 figures. 3 references.  
[-Abstracter's note: Complete translation.]

Card 2/2



1ST AND 2ND COLUMNS										3RD AND 4TH COLUMNS									
PROCEDURES AND PROPERTIES INDEX																			
<div style="display: flex; justify-content: space-between;"> <span>BC</span> <span>A-1</span> </div> <p>Electro-chemical and electrolytic transference in aqueous solutions. J. VILHAN and A. VALHAN (Coll. Czech. Chem. Comm., 1961, 3, 111-115).—A discussion of the two principal methods for the study of electro-chemical, viz., the chemical and the physical. The latter, although simpler and more rapid, is the less accurate, and does not serve to distinguish the fraction of the total transference due to the electrolyte and that due to the solvent. H. F. GILLER.</p>																			
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The electroosmosis on a ceramic diaphragm in aqueous solutions of some alkali halides. J. VELISEK AND A. VASCHER. *Collection Czechoslov. Chem. Communications* 4, 428-431 (1932).—Electroosmotic measurements on the ceramic diaphragm  $P_{20}$  were made at concns. from 0.00008 to 1.0 *N* for LiCl, NaCl, KCl, KBr and KI. For medium values of the concn. investigated, the electroosmotic transport was the same for all electrolytes. The electrokinetic potential develops a max. for NaCl, KCl and LiCl; this max. does not appear in KBr or KI solns. Up to dilns. of 0.02 *N*, a ceramic and a kaolin diaphragm showed the same electroosmotic permeability; in more dil. solns. the electrolytic transport became 10 times as great for the ceramic as for the kaolin diaphragm. The electroosmotic permeability differences showed up principally in dil. solns. The permeability increased with the size of the pores and is in accord with the results of Manegold and Solf on collodion membranes.

phragm. The electroosmotic permeability differences showed up principally in dil. solns. The permeability increased with the size of the pores and is in accord with the results of Manegold and Solf on collodion membranes.

FRANK MARSH

A S M S L A METALLURGICAL LITERATURE CLASSIFICATION

The electrokinetic potential on a ceramic diaphragm. A. VAMCHE. *Chemo. Indus.* 26, 803-7 (1932).—The electrokinetic potential of the diaphragm  $P_{m0}$  by the electro-osmosis method in aq. solns. of KCl was measured. The results agree with those of Rühl found by the method of streaming potentials. In concns. less than 0.02 *N* the electrokinetic potential rose approx. linearly with the log of concn., reached a max. at 0.02 *N* KCl, and declined gradually with further dilns. In solns. more concd. than 0.02 *N* the electrolytic transport is large and predominates over the electroosmotic effect.

ASB.SLA METALLURGICAL LITERATURE CLASSIFICATION

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The study of electroosmosis on ceramic diaphragms in aqueous solutions of potassium chloride. J. VETLICKÝ AND A. VALŠEK. *Chem. Listy* 26, 507-12(1932) - The diaphragm  $P_{20}$  of Berlin Porcelain Manufacture showed a large electroosmotic potential in 1.0  $N$  to 0.00005  $N$  KCl solns. which increased enormously with dilns. The max electroosmotic potential of 42 mv. was attained in a concn. 0.002  $N$  KCl. The ratio of the surface current to the voltaic current for kaolin diaphragms was 6, for the ceramic  $P_{20}$  0.7 in the most dil solns. The pores in the ceramic diaphragm are much larger than those of the kaolin. With the diaphragms  $P_1$  and  $P_{10}$  in a soln of KCl the electrokinetic potential increased with the size of the av diam. of the pores P M

ASS-566 METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX										3RD AND 4TH ORDERS									
<p><b>BC</b></p> <p><b>Calcium electrode of the third order. J. Vanzant and A. Vaitkus (Coll. Czech. Chem. Comm., 1963, 38, 10-23). Previous data for Ca electrodes of the third order are discarded and other electrodes are investigated but none is found to be entirely satisfactory. It is unlikely that a satisfactory method will be found for determining <math>[Ca^{2+}]</math> electrochemically. The electrode studied in most detail was <math>Hg Hg_2(PO_4)_2 Ca_3(PO_4)_2 Ca^{2+}</math>. For <math>[Ca^{2+}]</math> between 0.2 and 0.01N the hypothetical normal potential of Ca against the normal H electrode is approx. const. <math>\approx -0.6100</math>, but increases below these values, owing to the solubility of the depolarizer <math>Ca_3(PO_4)_2</math>. The solubility of the latter corresponds with 0.001N <math>Ca^{2+}</math>. There is a slow increase of potential with time due to decomp. of <math>Ca_3(PO_4)_2</math> by <math>H_2O</math> to form <math>Ca(OH)_2</math> and also to the reduction of the <math>Hg^{2+}</math> salt. It cannot be used in physiological solutions because of the presence of <math>Cl^-</math> and <math>PO_4^{3-}</math>. M. S. B.</b></p>																													
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The dielectric constant of solutions. A Vatsch (Chem. Ind. 27, 202 (1941)). The conductance, Nernst bridge and potential methods for determining constants of solutions are reviewed. Frank Matosh																									
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BC

AI

Electro-osmotic transport, and the electrokinetic potential of aqueous lithium, sodium, and potassium chlorides, and of potassium bromide and iodide. J. Vklřsk and A. Vasičsk (Chem. Listy, 1933, 27, 361—364).—Electro-osmotic transport vals. in 0.002N-LiCl, -NaCl, -KCl, -KBr, and -KI are nearly identical; in more conc. solutions the vals. are in the order NaCl > LiCl > KCl > KBr > KI. Max. vals. for electrokinetic potential are shown with increasing dilution by LiCl, NaCl, and KCl, but not by KBr and KI.

R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



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<p><i>BC</i> <span style="float: right;"><i>H-1</i></span></p> <p>Electro-osmosis with some ceramic diaphragms. A. Vaitček (Sborn. Škol. Tech. Brnš. 1934, 8, No. 32; Chem. Zentr., 1935, i, 1350).— Electro-osmotic properties of ceramic diaphragms in aq. KCl have been examined. Surface conduction and electro-osmosis take place in solutions <math>\gamma</math> 0.02—0.03N. Electrokinetic potential and surface conduction are dependent on the structure of the diaphragm. J. S. A.</p>																																																			
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<p>Electro-osmosis at certain porcelain diaphragms. J. VILHUK and A. VASILCHUK (Chem. Listy, 1935, 29, 250-253).—Measurements of the conductivities of 0.0000216—0.2N-KCl on both sides of a porcelain diaphragm indicate the validity of Ohm's equation, <math>V=I/\lambda</math> (<math>V</math>=p.d., <math>I</math>=intensity of current, <math>\lambda</math>=actual conductivity within diaphragm), showing that the resistance of the diaphragm remains const. over the range of concns. studied. R. T.</p>																																																			
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Common Elements

Measurements of electroosmosis. A. Valikh. *Chem. Listy* 30, 173-5(1936).—A cell contg. 3 pairs of electrodes, a capillary manometer, and a ceramic diaphragm immersed in a KCl soln. is presented. The app. is used to measure the augmented cond. of the electrolyte confined within the capillaries of the diaphragm and to compare it with the cond. of the KCl soln. external to the diaphragm, to det. the total transport as the electroosmotic and electrolytic transport expressed in l. per faraday, and to compute the electro-kinetic potentials according to the Helmholtz or Smolachowski theories. Since the measurements in dil. soln. begin to approach those of the redid. water used in making the soln. and may be affected by the diffusion of KCl from the agar electrodes, the cond. was measured progressively in 0.00005, 0.0001, 0.0002, 0.0003, 0.001, 0.005, 0.01, 0.02, 0.05, 0.1, 0.2, 0.5 and 1.0 N KCl in the cell and the detns. were repeated in the same soln. external to the cell. Before the measurements were made on the diaphragm the soln. was passed through the pores for 30 min. electroosmotically; in concns. exceeding 0.02 N KCl hydrostatic pressure was necessary to pass the soln. through the diaphragm. Frank Mareš

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PROCESSES AND PROPERTIES

Polarimetric measurements of the refractive index in the half-shadow. Antonin Václavík. *Skvorník Čechy, Vysoke Školy Tech, Brno 12, No. 48, 1-81 (1938); Chem. Zvesti. 1939, 1, 8035-6.*—By means of a half-shadow arrangement and the polarisation spectrometer of Pures, the  $n$  of various glasses, of quartz, and of liquids were detd. If

$\phi$  is the angle of incidence of the rays on the surface being studied and  $\alpha$  is the angle which the plane of incidence makes with the plane of the analyser, then for the case in which the plane of vibration of the polariser forms an angle of  $45^\circ$  with the plane of incidence, the refractive index  $n$  can be calcd. from the relation  $n^2 = \sin^2 \phi [1 - \tan^2 \alpha \tan^2 (\alpha - 45^\circ)]$ . For the glasses investigated, the  $n$  so detd. were lower in the 2nd or 3rd decimal place than the values detd. by the method of min. deflection. Values obtained by both methods agreed for quartz and for liquids. Differences in the  $n$  of the glasses were attributed to the formation of surface film by weathering of the glass surface. Surface films having lower  $n$  were produced artificially by treating the glasses with  $H_2SO_4$ .  $NaOH$  formed no such films but dissolved films already present. The artificial surface films produced interference phenomena so that their thickness could be measured. M. O. M.

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<p>19</p> <p>The significance of surface layers in the chemical resistance of glasses and glazed surfaces. A. Valitov. <i>Natura</i> 23, 341-4(1938); <i>Chem. Abstr.</i> 14, 170. From polarimetric studies V. concludes that 1.0 N H<sub>2</sub>SO<sub>4</sub> forms a surface compd. with the glass which then protects the glass against any further action of the acid, and that 1.0 N NaOH does not form such a surface compd. and consequently the glass is not protected against the action of the NaOH. The results and concepts agree with the observations from industry; glasses are highly resistant to the action of acids but are etched by alkalis. F. M.</p>																																																			
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19		<p><b>The index of refraction of a glass surface.</b> A. Valček, <i>Skladisko Rostkedy</i> 10, 9 (1939); <i>Glasnost</i> 70, 601 (1940).            By detg. the <math>n</math> of the surface and the interior of a given mass of glass, V. found that the <math>n</math> of the surface of the glass is lower than that of the interior of the glass. In flint glasses the differences can reach the 2nd decimal. These changes are attributed to the formation of surface layers. Old prisms which have been newly polished on one surface, showed the greatest difference between the <math>n</math> of the unpolished, 65 year old surface and the interior; whereas the difference was low between the newly polished surface and the interior. In the 65 years the <math>n</math> of the surface fell off about 0.01 more than that of the interior. The weathered surface layer is removed by polishing. Treating with <math>N</math> NaOH had no effect on <math>n</math>. However, <math>N</math> <math>H_2SO_4</math> had a strong effect; a clear surface layer was formed by the chem. combination of the <math>H_2SO_4</math> with the ingredients of the glass. This layer protects the glass from further attack of acid. NaOH forms no protective layer, and alkalis can corrode deep into the glass. If the glass is treated with NaOH before treating with <math>H_2SO_4</math>, the acid treatment will form a much stronger protective layer than when there is no NaOH pretreatment, because the glass surface is activated by the NaOH treatment. If the glass is first treated with acid and then with 1.0 <math>N</math> NaOH for 8 hrs., the surface is affected very much less because the protective layer formed by the acid is not dissolved. After 28 hrs., however, flint glass is affected somewhat by the NaOH soln., in crown glass the protective layer is almost entirely dissolved off. Quartz glass did not show any such change. NaOH forms such thick layers on flint glass that interference colors appear, while such phenomena were not observed in crown glasses. This protective treatment makes glasses resistant to atm. corrosion and is a means of producing articles with variegated interference colors.            M. V. Condoide</p>		19	
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<p>C</p> <p>Surface layers in glass and their technical significance.            ANTONIN VALLCHAK: <i>Chem. Listy</i>, 36, 17-22 (1912);  <i>Chem. Zvest.</i>, 1942, 1, 2017-18; <i>Chem. Abstracts</i>, 37, 4530            (1943).--Historical development is discussed including the            work and findings of Drude in 1880 and 1912. Tables are            given of <math>n</math> and thickness of the surface layer for six dif-            ferently treated glasses. A glass with a surface layer re-            flects as much light as one without, provided the <math>n</math> of the            glass is greater than that of the layer. Tables show <math>n</math>,            thickness of layer, and other information for flint glass with  <math>n_D = 1.7383</math> treated for different lengths of time from a few            sec. to 5 hr. with <math>NH_4SO_4</math>. Practical applications and "in-            visible glass" are discussed.</p>																																																			
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Chemistry of the preparation of unimolecular layers on glass. Antonin Vaidík, *Chem. Listy* 39, 63-6 (1945).--  
Some of V.'s observations in the chem. processing of glass surfaces are summarized: If the  $H_2SO_4$  used for etching glass contains some  $Pb$ , the  $n$  of the layer increases, e.g. from 1.48 to 1.525. The surface layer contracts when exposed to air, and it is necessary to make the layer accordingly thicker.  
M. Hudlík



**Radiative Isotopes and Radiographs in Metallurgy.** A. Veselý. — (*Hutnické Listy*, 1951, vol. 6, Apr., pp. 178-181). [In Czech]. The author reviews briefly the development of radioactive isotopes and enumerates their practical applications in metallurgy, e.g., determination of the phosphorus and sulphur contents of melts, investigation of the solubility of one metal in another, investigation of the diffusion of metals, and friction between two metal surfaces.—S. O.

VASILEV, A.

"Tables Of Optical Constants For Thin Metallic Films." p. 105.  
(Pract. Vol. 23, No. 239-240, 1971, Brno.)

Vol. 3, No. 3,  
SO: Monthly List of East European Accessions, Library of Congress, March 1954, incl.

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